IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of blending a subpicture signal and a video signal comprising:

receiving a subpicture signal, the subpicture signal providing a plurality of alpha values and information identifying or to identify a plurality of subpicture Y, U and V values;

receiving a video signal, the video signal including a set of Y values, a set of U values and a set of V values provided in a planar format;

blending, in a first pass, each of the Y values of the video signal with a corresponding Y value of the subpicture signal based on a corresponding alpha value to generate a set of blended Y values;

blending, in a second pass, each of the U values of the video signal with a corresponding U value of the subpicture signal based on a corresponding alpha value to generate a set of blended U values;

blending, in a third pass, each of the V values of the video signal with a corresponding V value of the subpicture signal based on a corresponding alpha value to generate a set of blended V values;

wherein the generated sets of blended Y values, U values and V values are provided in a planar format and the Y, U and V values of the video signal are provided in a 4:2:0 format, and wherein the steps of blending are performed using multiple passes in a 4:2:0 format~~, and wherein a same subpicture data structure to be used when blending in the first pass, the second pass and the third pass~~.

2. (Original) The method of claim 1 wherein the step of receiving a subpicture signal comprises the step of receiving a subpicture signal, the subpicture signal including a plurality of alpha values and a plurality of palette indexes.

3. (Original) The method of claim 2 and further comprising the step of identifying subpicture Y, U and V values based upon the palette indexes.

4. (Canceled).

5. (Original) The method of claim 1 wherein the step of blending each of the Y values comprises the steps of:

performing motion compensation on each of the Y values of the video signal; and

blending each of the motion compensated Y values of the video signal with a corresponding Y value of the subpicture based on a corresponding alpha value to generate a set of blended Y values.

6. (Original) The method of claim 1 wherein the step of blending each of the U values comprises the steps of:

performing motion compensation on each of the U values of the video signal; and

blending each of the motion compensated U values of the video signal with a corresponding U value of the subpicture based on a corresponding alpha value to generate a set of blended U values.

7. (Original) The method of claim 1 wherein the step of blending each of the V values comprises the steps of:

performing motion compensation on each of the V values of the video signal; and

blending each of the motion compensated V values of the video signal with a corresponding V value of the subpicture based on a corresponding alpha value to generate a set of blended V values.

8. (Original) The method of claim 1 wherein the step of receiving a subpicture signal comprises the step of receiving a subpicture signal, the subpicture signal including a plurality of alpha values and a plurality of palette indexes;

the method further comprising the steps of:

loading a palette with subpicture Y values and identifying one or more subpicture Y values based upon one or more of the palette indexes prior to the step blending each of the Y values of the video signal;

loading the palette with subpicture U values and identifying one or more subpicture U values based upon one or more of the palette indexes prior to the step blending each of the U values of the video signal; and

loading the palette with subpicture V values and identifying one or more subpicture V values based upon one or more of the palette indexes prior to the step blending each of the V values of the video signal.

9. (Original) The method of claim 1 and further comprising converting the sets of blended Y values, U values and V values from a planar YUV 4:2:0 format to an interleaved YUV 4:2:2 format.

10. (Original) The method of claim 9 and further comprising the step of color converting the blended Y values, U values and V values from a YUV 4:2:2 format to a RGB format.

11. (Original) The method of claim 1 wherein said steps of blending are performed at render time.

12. (Original) The method of claim 1 wherein the video signal comprises a DVD video signal, and wherein the subpicture signal comprises a DVD subpicture signal.

13. (Original) The method of claim 3 wherein the step of identifying subpicture Y, U and V values based upon the palette indexes comprises the steps of:

loading a palette with subpicture Y values, identifying one or more subpicture Y values based one or more indexes, and performing the step of blending each of the Y values in a first pass;

loading a palette with subpicture U values, identifying one or more subpicture U values based one or more indexes, and performing the step of blending each of the U values in a second pass;

loading a palette with subpicture V values, identifying one or more subpicture V values based one or more indexes, and performing the step of blending each of the V values in a third pass.

14. (Currently Amended) A method of blending a subpicture signal and a video signal comprising:

receiving a subpicture signal, the subpicture signal providing a plurality of subpicture values, each subpicture value including an alpha value and an index to a subpicture palette;

receiving a video signal including a set of Y values, a set of U values and a set of V values, the sets of Y, U and V values being provided in a planar format;

based on a corresponding alpha value, blending, in a first pass, each of the Y values of the video signal with a Y palette value referenced by a corresponding subpicture palette index to generate a set of blended Y values;

based on a corresponding alpha value, blending, in a second pass, each of the U values of the video signal with a U palette value referenced by a corresponding subpicture palette index to generate a set of blended U values;

based on a corresponding alpha value, blending, in a third pass, each of the V values of the video signal with a V palette value referenced by a corresponding subpicture palette index to generate a set of blended V values;

wherein the sets of blended Y values, U values and V values being provided in a planar format, the Y, U and V values being provided in a 4:2:0 format, and blending is performed using multiple passes in a 4:2:0 format~~, and wherein a same subpicture data structure to be used when blending in the first pass, the second pass and the third pass~~.

15. (Original) The method of claim 14 and further comprising the steps of:

loading the subpicture palette with a plurality of subpicture Y palette values before performing the step of blending each of the Y values of the video signal;

loading the subpicture palette with a plurality of subpicture U palette values before performing the step of blending each of the U values of the video signal; and

loading the subpicture palette with a plurality of subpicture V palette values before performing the step of blending each of the V values of the video signal.

16. (Original) The method of claim 15 wherein the subpicture palette comprises a texture palette loaded with subpicture values for performing the steps of blending.

17. (Currently Amended) A circuit for blending video signals and subpicture signals comprising:

a palette to output at least one subpicture value based on a palette index;

an alpha-blend unit coupled to the subpicture palette to blend ~~a set of luminance values of a video signal with a set of luminance values of a subpicture signal in one pass and to blend a set of chrominance values of the video signal with a set of chrominance values of the subpicture signal in a separate pass, the luminance and chrominance values of the video signal~~ in a first pass, each of Y values of a video signal with a corresponding Y value of a subpicture signal based on a corresponding alpha value to generate a set of blended Y values, to blend, in a second pass, each of U values of the video signal with a corresponding U value of the subpicture signal based on a corresponding alpha value to generate a set of blended U values, and to blend, in a third pass, each of V values of the video signal with a corresponding V value of the subpicture signal based on a corresponding alpha value to generate a set of blended V values, wherein the generated sets of blended Y values, U values and V values being provided to the alpha-blend unit in a planar format, the Y, U and V values of the video signal are provided in a 4:2:0 format, and blending is performed using multiple passes in a 4:2:0 format~~, and wherein a same subpicture data structure to be used when blending in the one pass and the separate pass~~.

18. (Original) The circuit of claim 17 wherein the palette is a dual-purpose palette which can operate as a texture palette or a subpicture palette.

19. (Original) The circuit of claim 18 wherein the palette, when operating as a subpicture palette includes indices based upon a native index and a native alpha value.

20. (Original) The circuit of claim 17 and further comprising a motion compensation circuit for motion compensating each of the luminance and chrominance values of the video signal prior to being blended with the subpicture signal.

21. (Currently Amended) A circuit for blending video signals and subpicture signals comprising:

a subpicture palette to output at least one subpicture value based on a palette index;

an alpha-blend unit to blend a set of subpicture Y values output from the subpicture palette with corresponding Y values of a video signal in a first pass, to blend a set of subpicture U values output from the subpicture palette with corresponding ~~Y~~ U values of the video signal in a second pass and to blend a set of subpicture V values output from the subpicture palette with corresponding V values of the video signal in a third pass, the Y, U and V values of the video signal being provided to the alpha-blend unit an a planar format, the Y, U and V values of the video signal being provided in a 4:2:0 format, and blending is performed using multiple passes in a 4:2:0 format~~, and wherein a same subpicture data structure to be used when blending in the first pass, the second pass and the third pass~~.

Claims 22-26 (Canceled).